

PHYS 102 - Fundamentals of Physics II

Fall Quarter 2026-2027

Faculty

Course Director and Section A Lecturer

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Office: Disque 810

Office Hours: Tuesdays 1:30 – 3 pm and Thursdays 11 am – 12:30 pm, or by appointment

Teaching Assistants

Ibukun Bukola (ib396@drexel.edu)

Office Hours: Mondays 12 – 1 pm and Wednesdays 4 – 5 pm (Korman 103)

Giana Deskevich (gld46@drexel.edu)

Office Hours: Tuesdays 9-11 am (Korman 103)

Course time and location: Mondays and Wednesdays 11 am – 11:50 am (BSONE Auditorium)

Course Canvas Page (<https://drexel.instructure.com/courses/9606>)

Links to lecture resources, recitation assignments, homework assignments, conceptual exercise assignments, laboratory experiments, and other course resources are accessed on the PHYS 102 Canvas page.

Course Materials

Textbook: “*Physics for Scientists and Engineers - 6th Edition*” by Tipler and Mosca

Macmillan Achieve Access: <https://achieve.macmillanlearning.com>

You must purchase an Achieve book/homework package before enrolling in our online homework course. The Drexel Bookstore and Macmillan both have options for Achieve standalone access with an e-book and for bundles with physical copies of the textbook that come with an access code.

Make sure that your numerical Drexel address is signed up with Achieve. Then go to Canvas and link your Canvas and Achieve accounts by clicking on the Macmillan link available under Modules on Canvas. If you want to check that you’re in the correct course, our Homework Course ID is **agv3zg**.

Course Description ([Catalog link](#))

Second of a three-course physics sequence introducing electricity and magnetism to engineering and science majors. Topics include: Electrostatics, Coulomb's law, electric field and flux, and Gauss's law. Electric potential and potential energy and capacitors. Charges in motion, voltage and current measurements. Direct current circuit analysis using Ohm's law and Kirchhoff's rules. Sources of magnetic fields, concepts of magnetic flux and electromagnetic induction.

Course Learning Outcomes

- Students will be able to apply key concepts and physical laws of electricity and magnetism including conservation of charge, Coulomb's law, Gauss's law, electric potential, Kirchhoff's rules, Biot-Savart law, Ampere's law, Faraday's law and Lenz's law
- Students will be able to analyze the dynamics of charged particles in electric and magnetic fields
- Students will be able to identify sources of electric potential and analyze direct current circuits including steady state and time-varying circuits
- Students will develop critical thinking skills combining theoretical and applied concepts in electricity and magnetism through problem solving and performing laboratory experiments

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Course Organization

Lectures will introduce concepts and present examples. See *Course Attendance and Participation* for information on in-class assignments.

Recitations will discuss concepts and solve problems using principles learned in lectures. You'll turn in a problem at the end of every recitation that will count for your recitation participation grade.

Laboratories will explore ideas and concepts in hands-on, team-oriented activities

Four **Laboratory Experiments** will be conducted during the term to relate observation to theory, to model physical systems, and to practice data analysis. Pre-Lab Videos, laboratory procedures, and worksheets are posted on the Canvas course page under Files. *Watching Pre-Lab Videos prior to the laboratory meeting is expected.* A Laboratory Worksheet will be completed by each lab group, and a single grade will be given to each Lab Group report.

Lab worksheets are due exactly a week after your lab section. Late worksheets will lose 20% in their grade for every day that it is late. Only one student needs to submit the worksheet per group and should select the names of all group members on Canvas when doing so to ensure that everyone gets a grade.

Lab sessions begin in **Week 2**

Even lab sections (60, 62, 64, 66) will meet in even class weeks (2, 4, 6 and 8)

Odd lab sections (61, 63, 65, 67) will meet in odd class weeks (3, 5, 7 and 9)

Laboratory 1	Electric Fields and Electric Potentials
Laboratory 2	Electrostatic Force Between Charged Parallel Plates
Laboratory 3	Direct Current Circuits – Resistors and Capacitors
Laboratory 4	Motion of Charged Particles in E and B Fields

Homework: Achieve includes required assignments and is accessible Canvas under Modules. Note that each week assigned material on the Achieve website will include some helpful material that is not worth a grade (but that should help you studying and understanding concepts!), a set of conceptual exercises that is worth 50 points and a set of problems that is worth 100 points. Problems will be available 7 days before they are due (the last homework will be available 2 weeks in advance). Submissions are due on Tuesdays at 11:59 pm.

Exceptions to the homework deadlines are noted on the course calendar on this syllabus.

Late homework will receive a penalty of 20% by day that it's late.

Examinations

Two one-hour **Midterm Examinations** and a comprehensive two-hour **Final Examination** will be given. A make-up examination* may be arranged if special circumstances arise with the permission of the Course Director. Exam locations will be listed on Canvas.

* Conditions for permission for Make-up Examination can be found under Course Attendance and Participation

Midterm	Day/Date
1	Wednesday, 10/21/26, 8:00am
2	Wednesday, 11/4/26, 8:00am
Make-up*	Wednesday, 11/18/26, 8:00am

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Final Examination – Date, time and location to be announced on Canvas

- A scientific calculator without internet connection is required for all examinations.
- An equation sheet will be released on Canvas prior to each examination for review and printed with each examination.

Syllabus Note

Minor changes may be made to the Syllabus over the course of the term. These will be announced in lecture when possible and always posted on the course Canvas page.

Grading: The final course grade will be based on the following weights.

Lecture Attendance and Participation	5%
Recitation Attendance and Participation	10%
Achieve (Conceptual Exercises and Set of Problems)	15%
Laboratories (4)	20%
Midterms (2)	30%
Final Exam	20%
TOTAL	100%

Letter Grades

Course numerical grades	Letter Grade
Score > 96 %	A+
90% < Score < 96%	A
86% < Score < 90%	B+
80% < Score < 86%	B
76% < Score < 80%	C+
70% < Score < 76%	C
65% < Score < 70%	D+
60% < Score < 65%	D
Score < 60%	F

The grading scale may be modified towards lower numerical grade thresholds (in students' favor) if needed.

Grade Appeals

If a student has any comments, concerns, or questions about provided class materials and/or recording, speak with your course instructor first. If this does not resolve the issue, you can also reach out to the Department Head, and use the process described for a grade appeal at [Grade Appeals](#).

Any concerns regarding assigned scores on *any* graded assignments must be brought to the instructors' attention within one calendar week of the assignment's due date. In no event will re-scoring for or adjustments to online assignments be considered after the last regular day of classes.

Course Attendance and Participation

Attendance at and participation in lectures, recitation, laboratory activities and exams is mandatory, and will be recorded.

Attendance in lecture will be recorded with simple Poll Everywhere problems starting in the second week of classes. These questions be graded as 90% participation and 10% for correctness. Every lecture, you will receive a daily average for those problems, and the average of these daily averages will make up the 5% lecture attendance and participation grade. You can have up to two daily averages of zero dropped for unexcused absences. Beyond that, daily scores of zero will only be dropped for excused absences similarly

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to the policy for make-up labs and exams (see below). Instructions for how to access Poll Everywhere will be posted on Canvas on the first week of classes. It's expected that students will bring some device that can connect to the internet to use Poll Everywhere (for example a phone, tablet, or computer).

In some instances, a student may be unable to attend a course activity such as exams, labs and recitations. In such a situation, e-mail and/or discuss the situation with the Course Director before an expected absence or within one week after an unexpected absence to be considered for an excused absence (unless the student is incapacitated and unable to communicate during that period, in which case communication should take place as soon as possible thereafter). Students should refer to the [Absence from Class](#) policy that includes the University policy on excused absences including absences for [religious observances](#).

Make-up exams and labs, as well as excused absences in lecture and recitation will only be granted under extenuating circumstances including but not limited to illness, emergencies, varsity trips, religious accommodations. Private details related to health and family issues, for example, do not need to be shared with the instructor/course director unless the student is comfortable and willing to do so.

In case a student has an official flexible attendance accommodation due to a disability, arrangements will be made around the course policy accordingly to honor such accommodations.

Disability Access

Students with disabilities requesting accommodations must present a current Accommodation Verification Letter (AVL) to the Course Director before accommodations can be made. AVLs are issued by the Disability Resources Team. Resources for students with disabilities can be found at the following website.

[Disability Resources](#)

[Registering with Disability Resources](#)

Tutoring and Student Resources

The [Physics Help! Center](#) offers free tutoring sessions to Drexel students in introductory physics courses. Consult the Physics Help! Center calendar for tutoring schedules.

Additional student resources and academic support can be found at
<https://drexel.edu/coas/academics/student-resources-support>

Help with technology can be found on the Information Technology website at
<https://drexel.edu/it>

Health Center and Student Counseling

Health and wellness resources for students can be found at the following websites.

<http://drexel.edu/counselingandhealth/student-health-center/overview>

<http://drexel.edu/counselingandhealth/counseling-center/overview>

Academic Integrity

Collaboration with classmates to study and work on homework sets is encouraged, but the final solution should always be your own. While asking AI services for clarification on concepts is allowed, asking AI to solve problems for you in any activities or labs is also forbidden. Breaches of academic integrity, for example, cheating or plagiarizing from another student or copying from online sources without reference, are serious infractions of the community standards of Drexel University. Likewise, breaches of computer systems policies serious infractions of the community standards of Drexel University. Refer to the following websites to understand expectations of students and consequences for violating these standards.

[Academic Integrity](#)

[Student Code of Conduct](#)

[Security of Enterprise Systems](#)

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[Security of Information and Networked Systems](#)

Commitment to a welcoming, inclusive and respectful environment

The PHYS 102 instructors recognize the talents and diversity of all of our students. Students' perspectives benefit the learning process and the entire Drexel University community. We will strive to be sure that materials and activities in this course respect the diverse backgrounds of our students including race, ethnicity, gender, sexuality, disability, age, religion, socioeconomic status, and culture. We believe that each student should be respected by us and by their peers. Please feel free to approach the instructors with any suggestion on how to make our classroom environment more welcoming.

[Civil Rights Compliance](#)

Appropriate Use of Course Materials

It is important to recognize that some or all of the course materials provided to you are the intellectual property of Drexel University, the course instructor, or others. Use of this intellectual property is governed by Drexel University policies, including the IT-1 policy found at [Acceptable Use Policy](#). Briefly, this policy states that **all course materials including recordings** provided by the course instructor may not be copied, reproduced, distributed or re-posted, unless otherwise given prior written approval by the University. Doing so may be considered a breach of this policy and will be investigated and addressed as possible academic dishonesty, among other potential violations. Improper use of such materials may also constitute a violation of the Code of Conduct.

Recording of Class Activities

In general, students and others should not record course interactions and course activities in lecture, lab, or recitation. Students who have an approved accommodation from the Office of Disability Resources to record online lectures and discussions for note taking purposes should inform their course instructor(s) of their approved accommodation in advance. The recording of lectures and discussions may only be carried out by the students enrolled in the class who have an approved accommodation from Disability Resources with their instructors' prior knowledge and consent. Students with approved accommodations may be asked to turn off their recorder if confidential or personal information is presented.

Registration and Grading Policies

Please note the following policies for adding, dropping, or withdrawing from courses at Drexel University as well as incomplete grades. If you register for the course after the start of term, it's your responsibility to finish all the activities that were already assigned.

[Course Add/Drop](#)

[Course Withdrawal](#)

[Incomplete Grades](#)

Course Schedule

Week # (Lecture Days)	Anticipated lecture topics	Labs	Homework (due by 11:59 pm on the day listed)
1 (Sep 23)	Chapter 21 (partial)	No labs	Tuesday, September 29, 2026
2 (Sep 28 and 30)	Chapter 21 (partial) and Chapter 22 (partial)	Lab 1 for even sections	Tuesday, October 6, 2026
3 (Oct 5 and 7)	Chapter 22 (partial) and Chapter 23 (partial)	Lab 1 for odd sections	Tuesday, October 13, 2026
4 (Oct 14)	Chapter 23 (partial) and Chapter 24 (partial)	Lab 2 for even sections	Tuesday, October 20, 2026
5 (Oct 19 and 21)	Chapter 24 (partial) and Chapter 25 (partial)	Lab 2 for odd sections	Tuesday, October 27, 2026

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6 (Oct 26 and 28)	Chapter 25 (partial)	Lab 3 for even sections	Tuesday, November 3, 2026
7 (Nov 2 and 4)	Chapter 26	Lab 3 for odd sections	Tuesday, November 10, 2026
8 (Nov 9 and 11)	Chapter 27	Lab 4 for even sections	Tuesday, November 17, 2026
9 (Nov 16 and 18)	Chapter 28 (partial)	Lab 4 for odd sections	Tuesday, November 24, 2026
10 (Nov 23)	Chapter 28 (partial)	No recitations or labs (Thanksgiving Break)	No homework! (Thanksgiving Break)
11 (Nov 30 and Dec 2)	Extra Topics and Review	Make-up labs for those who qualify for one	Saturday, December 5, 2026